

16(1)

AUTHOR: Glushko, V.P.

SSV/20-126-3.2/89

TITLE: On Potential Type Operators and Certain Imbedding Theorems

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol. 126, Nr 3, pp 467-470 (USSR)

ABSTRACT: Let R_n be an n-dimensional Euclidean space; let Ω be a domain in the R_n ; let Ω_s be the intersection of Ω and R_s . Let $L_{p,k}(M)$ be

the set of functions $\varphi(Q)$ for which $\|\varphi\|_{L_{p,k}(M)}^p = \int_{\Omega} |\varphi(Q)|^p r^{-kp}(M,Q) dQ < \infty$, where M is a fixed point of the R_n ; Q is a variable point of the Ω ; $r(M,Q)$ is the distance of M and Q in R_n and $-\frac{n}{p} < k < \frac{n}{p}$, $(\frac{1}{p} - \frac{k}{n} = 1)$. Let $L_{p,k}^s(M)$ be the set of

functions for which $\|\varphi\|_{L_{p,k}^s(M)}^p = \int_{\Omega_s} |\varphi(Q)|^p r^{-kp}(M,Q) dQ < \infty$

where $-\frac{n}{p} < k < \frac{s}{p}$.

The author investigates the properties of the operator

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$A_\lambda \varphi(P) = \int_{\Omega} \varphi(Q) r^{-\lambda}(P, Q) dQ$. With the aid of a generalized Hardy-

Littlewood inequation the author proves:

Theorem: Let $p > 1$; $s \leq n$; $-\frac{n}{p} < k < \frac{s}{p}$; $\frac{n}{p} + k < \lambda < \frac{n}{p} + \frac{s}{p}$. Then

A_λ acts from $L_{p, k}(M)$ to $L_{q, h}^s(M)$, where h is an arbitrary number satisfying the inequation $k < h \leq k + \frac{n}{p} + \frac{s}{p} - \lambda$ while

$$q = \frac{sp}{n - (n - \lambda - h + k)p}$$

Here

$$\|A_\lambda \varphi\|_{L_{q, h}^s(M)} \leq K_1 \|\varphi\|_{L_{p, k}(M)},$$

where $K_1 = \text{const}$ is taken from the above mentioned generalized inequation.

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There are several conclusions and two further similar theorems completing the results of S.L.Sobolev, V.P.Il'in, and Kh.I. Smolitskiy. The author thanks S.G.Kreyn for the leading of the investigations.

There are 7 references, 4 of which are Soviet, 2 German, and 1 American.

PRESENTED: February 16, 1959, by N.N.Bogolyubov, Academician

SUBMITTED: February 12, 1959

Card 3/3

GLUSHKO, V.P.; KRYLYN, S.G.

Inequalities for the norms of derivatives in L^p -spaces with weight.
Sib. mat. zhur. 1 no.3:343-382 S-O '60. (MIA 14:2)
(Inequalities (Mathematics)) (Spaces, Generalized)

GLUSHKO, V. P.

Cand Phys-Math Sci - (diss) "Integral and differential operators in L_p spaces with weight." Khar'kov, 1961. 16 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Khar'kov Order of Labor Red Banner State Univ Imeri A. E. Gor'kiy); 120 copies; price not given; bibliography of pp 11-16 (25 entries); (KL, 7-61sup, 218)

16-4600

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C.../0345

AUTHOR: Glushko, V. P.

TITLE: Some properties of operators of potential type and their applications

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Matematika, no. 3, 1961, 3-13

TEXT: The author proves theorems on operators of potential type and embedding theorems in spaces of functions which are summable in a certain power p with a weight being a power of the distance from a point. A report on the results was given at the conference on functional analysis at Odessa in 1958.

The author considers functions which are defined in a domain Ω of the Euclidean R_n . Let Ω_s denote the intersection of Ω with the subspace R_s . Let $L_{p,k(M)}$ denote the set of the functions $\varphi(Q)$ for which

$$\|\varphi\|_{L_{p,k(M)}}^p = \int_{\Omega} |\varphi(Q)|^p r^{-kp}(M,Q) dQ < \infty \quad (1)$$

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Some properties of operators

where $M = \{z_1, z_2, \dots, z_n\}$ is a fixed point of the R_n and

$Q = \{y_1, y_2, \dots, y_n\}$ a variable point of Ω ;

$$-\frac{n}{p'} < k < \frac{n}{p} \left(\frac{1}{p} + \frac{1}{p'} = 1 \right)$$

$r(M, Q)$ -- distance of M and Q in R_n . Let $L_{r, k(M)}^{\infty}$ be the space of functions for which

$$\|\varphi\|_{L_{p, k(M)}^s}^p = \int_{\Omega_s} |\varphi(Q)|^p r^{-kp}(M, Q) dQ < \infty \quad (2)$$

where $M \in R_n$ and $-\frac{n}{p'} < k < \frac{s}{p}$.

The author investigates properties of the operators

$$A_\lambda \varphi(P) = \int_{\Omega} \varphi(Q) r^{-\lambda}(P, Q) dQ$$

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Some properties of operators . . .

where $P = \{ x_1, \dots, x_n \}$, $0 < \lambda < n$. in the given spaces of functions.

Lemma 1: Let $P, M \in R_n$ and

$$s \leq n, \alpha_1 + \alpha_2 + \alpha_3 = -s, \alpha_1 > -s, \alpha_2 > s, \alpha_3 > 0. \quad (3)$$

Then the function

$$H(P,M) = \int_{R_s} r^{\alpha_1}(P,Q) r^{\alpha_2}(Q,M) r^{\alpha_3}(P,M) dQ$$

is uniformly bounded with respect to P in M.

Lemma 2: If

$$p > 1; q \geq p; s \leq n; -\frac{n}{p} < k < h < \frac{s}{q} \quad (4)$$

then it holds the inequality

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Some properties of operators . . .

$$I_1 = \left\{ \int_{\Omega_s} \left[\int_{\Omega} \frac{\varphi(q)}{[r(P,Q)]^{\frac{n}{p'} + \frac{s}{q} - h+k} [r(P,M)]^h [r(Q,M)]^{-k}} dq \right]^q dP \right\}^{\frac{1}{q}} \leq \leq K \|\varphi\|_{L_p} \quad (9)$$

Theorem 1: If $p > 1$; $s \leq n$; $-\frac{n}{p'} < k < \frac{s}{p}$, then for

$-\frac{n}{p'} + k < \lambda < \frac{n}{p'} + \frac{s}{p}$ the operator A_λ is a bounded operator from $L_{p,k(M)}$ into $L_{q,h(M)}$, where h is an arbitrary number satisfying the inequalities

$$k < h \leq \frac{n}{p'} + \frac{s}{p} + k - \lambda \quad (13)$$

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Some properties of operators ...

$$q = \frac{sp}{n - (n - \lambda - h + k)p} \quad (14)$$

Lemma 3: If

$$p > 1; p < q; 0 < kp < hq < s \leq n \quad (16)$$

then it holds the inequality

$$\begin{aligned} I_2 &= \left\{ \int_{\Omega} \left[\int_{\Omega} \frac{\varphi(Q)}{[r(P, Q)]^{\frac{n}{p} + \frac{1}{q} - h + k} [r(P, M)]^h} dQ \right]^q dP \right\}^{\frac{1}{q}} \leq \\ &\leq K_2 \text{vrat sup}_{P \in \Omega} \left\{ \int_{\Omega} |\varphi(Q)|^p r^{-kp}(P, Q) dQ \right\}^{\frac{1}{p} - \frac{1}{q}} \times \\ &\quad \times \left\{ \int_{\Omega} |\varphi(Q)|^p r^{-kp}(M, Q) dQ \right\}^{\frac{1}{q}} \end{aligned} \quad (17)$$

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where $K_2 = K_2(n, p, k, s, q, h)$ is a constant which does not depend on φ, M and Ω .

Let $L_{p,k}$ be the space of those functions which belong to the spaces $L_{p,k(M)}$ for almost all $M \in \mathcal{F}$ and for which

$$\|\varphi\|_{L_{p,k}} = \text{vrai sup}_{M \in \mathcal{F}} \|\varphi\|_{L_{p,k(M)}} < \infty .$$

Theorem 1': A_λ is a bounded operator from $L_{p,k}$ in $L_{q,h}^s$ under the assumptions of theorem 1.

Theorem 2: Let

$$p > 1; s \leq n; 0 < k < \frac{s}{p} . \tag{20}$$

If $\frac{n}{p'} + k < \lambda < \frac{n}{p'} + \frac{s}{p}$, then A_λ is a bounded operator from $L_{p,k}$

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to $L_{q,h}^s$, where h is an arbitrary number satisfying

$$k \frac{n-(n-\lambda+k)p}{s-kp} < h \leq k \tag{2'}$$

and q is given by (14).

If, however, $\lambda = \frac{n}{p} + k$ and Ω is bounded, then A_λ is a bounded operator from $L_{p,k}$ into $L_{q,h}^s$ for arbitrary $h > 0$ and $p \leq q < \frac{s}{h}$.

Let $W_{p,k}^{(1)}$ ($W_{p,k}^{(1)}(M)$) be the spaces of the functions summable in Ω , the generalized l -th derivatives of which belong to $L_{p,k}(L_{p,k}(M))$.

The upper index s in $W_{p,k}^{(1),s}$ has the same meaning as before.

Theorem 4: Let $p > 1$; $0 \leq k < \frac{s}{p}$.

1.) If $m < 1 + k - \frac{n}{p}$, then $W_{p,k}^{(1),p}$ is embedded in $C^{(m)}$ -- space of the functions which possess m -th continuous derivatives in Ω .

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Some properties of operators ...

2.) If $1 + k - \frac{n}{p} < m < 1 - \frac{n-s}{p}$, then $W_{p,k}^{(1)}$ is embedded in $W_{q,h}^{(m),s}$, where

$$q = \frac{sp}{n-(1+k-m-h)p} \quad \text{and}$$

where h is an arbitrary number satisfying the inequalities

$$k \frac{n-(1+k-m)p}{s-kp} < h \leq 1 + k - m - \frac{n-s}{p} .$$

If, however, $m = 1 + k - \frac{n}{p}$, then $W_{p,k}^{(1)} \subset W_{q,h}^{(m),s}$ with every $h > 0$ and $q < \frac{s}{h}$ ($q \geq p$).

The author mentions S. L. Sobolev, V. P. Il'in, Kh. L. Smolitskiy and V. K. Zakharov. He thanks S. G. Kreyn for assistance.

There are 11 Soviet-bloc and 3 non-Soviet-bloc references. The three references to English-language publications read as follows:

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Some properties of operators . . .

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C111/C333

L. Nirenberg, Estimates and Existence of Solutions of Elliptic Equations, *Communs Pure and Appl. Math.*, vol. 9, pp. 509-530, 1956;
H. H. Hardy, J. E. Littlewood, Some properties of fractional integrals, *Math. Z.*, B. 27, S. 565-606, 1928; H. H. Hardy, J. E. Littlewood, G. Polya, *Neravenstva (Inequalities)*, IL, M., 1948.

ASSOCIATION: Voronezhskiy lesotekhnicheskij institut (Voronezh Forestry-Engineering Institute)

SUBMITTED: February 10, 1959

Card 9/9

GLUSHKO, V.P.

One integral inequality and the corresponding imbedding theorem.
Dokl. AN SSSR 137 no. 6:1280-1282 Ap '61. (MIRA 14:4)

1. Voronezhskiy lesotekhnicheskiy institut. Predstavleno akademikom
S.L. Sobolevym.

(Inequalities (Mathematics))

S/044/62/000/012/012/049
AC60/A000

AUTHOR: Glushko, V.P.

TITLE: On equations of the elliptic type which degenerate on manifolds

PERIODICAL: Referativnyy zhurnal, Matematika, no. 12, 1962, 50 - 51, abstract
12B231 (In collection "Funktsional'n. analiz i yego primeneniye",
Baku, AN AzerbSSR, 1961, 36 - 45)

TEXT: Let $x = (x_1, \dots, x_n)$ be a point of the euclidean space R_n , Ω an open bounded region with simple boundary Γ , $R_m = \{x : x_{m+1} = \dots = x_n = 0\}$ ($0 < m \leq n-1$), $\bar{\Omega} = \Omega \cup \Gamma$, $M = \bar{\Omega} \cap R_m$, $r = \sqrt{x_{m+1}^2 + \dots + x_n^2}$. $L_{p,k}(R_m)$ denotes the space of functions for which the following norm

$$\|u\|_{L_{p,k}(R_m)} = \left(\int_{\Omega} |u(x)|^p r^{-kp} dx \right)^{1/p} < \infty$$

is finite, where $p > 1$ and $-\infty < k < +\infty$. $D^s u$, $0 \leq s \leq 1$, denotes the square root of the sum of the squares of all the partial derivatives of the order s of

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S/044/62/000/012/012/049
A060/A000

On equations of the elliptic type which

the function $u(x)$. It is assumed that the function $u(x)$ is continuously differentiable 1 times in Ω , $l-1$ times continuously differentiable in Ω/M , and on Γ/M the function itself and all its normal derivatives are equal to zero. Moreover, it is assumed that the function $u(x)$ satisfies certain conditions on M . Then for any number k , other than

$$\frac{n-m}{p} - l + s, \frac{n-m}{p} - l + s + 1, \dots, \frac{n-m}{p} - 1, \quad (1)$$

there holds the inequality $\|D^s u\|_{L_{p, l+k-s}(R_m)} \leq c \|D^l u\|_{L_{p, k}(R_m)}$. Now if k

takes values (1) and the region Ω is sufficiently small, then for any $\epsilon > 0$

$\| |\ln r|^{-1-\epsilon} D^s u \|_{L_{p, l+k-s}(R_m)} \leq c \|D^l u\|_{L_{p, k}(R_m)}$. Every set of functions

$u(x)$ has a bounded norm $\|D^l u\|_{L_{p, k}(R_m)}$, $-\infty < k < +\infty$, and has a compact

norm $\|D^t u\|_{L_{p, h}(R_m)}$, where $0 < t < 1$ and $h < l + k - t$. Certain precisions

and generalizations of the propositions here formulated are indicated. The appli-

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On equations of the elliptic type which

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ation of these theorems to the theory of elliptic equations has been published
by the author (RZhMat. 1960, 10329).

G.N. Yakovlev

[Abstracter's note: Complete translation]

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GLUSHKO, V.P.

Regions stellate with respect to a sphere. Dokl. AN SSSR, 144,
no.6:1215-1216 Je '62. (MIRA 15:6)

1. Voronezhskiy lesotekhnicheskii institut. Predstavleno akad.
S.L.Sobolevym.

(Topology)

GLUSHKO, V.P.

Existence and uniqueness of the solutions to certain boundary value problems for degenerate elliptic equations of the second order.
Dokl. AN SSSR 163 no.1:22-25 J1 '65. (MIRA 18:7)

1. Voronezhskiy gosudarstvennyy universitet. Submitted December 28, 1964.

GLUSHKO, V.S., inzh.

"Material and technical equipment supply of industrial enterprises at economic councils" by N.V.Ivanov, N.S.Maliutin, A.L.Fleishman. Reviewed by V.S.Glushko. Vest.mashinostr. 43 no.3:86 Mr '63. (MIRA 16:3)
(Industrial management) (Ivanov, N.V.) (Maliutin, N.S.)
(Fleishman, A.L.)

GLUSHKO, V.M. (Rostov-no-Donu)

Determining the coefficient of heat exchange of garretless
roofs having an air ventilation interlayer. Vol. 3 san. tekhn.
no. 6:30-32 Je '56. (MLRA 9:8)
(Roofs) (Heat--Transmission)

BELAYENKO, F.A., prof., doktor tekhn.nauk; YERZHANOV, Zh.S., kand.tekhn.nauk;
GLUSHKO, V.T., inzh.; BEELIN, Yu.D., inzh.

Some preliminary results of studying physical and mechanical properties
of Krivoy Rog rocks and methods of testing them. Nauch. dokl. vys. shkoly;
gor. delo no.3:62-69 '58. (MIRA 11:9)

1. Predstavlena kafedroy shakhtnogo stroitel'stva Dnepropetrovskogo
gornogo instituta im.Artema.
(Krivoy Rog---Rocks---Testing)

GLUSHKO, V.T., inzh.

Anchor bolting of swelling ground in mines. Shakht.stroi. no.12:14-17
' 58. (MIRA 11:12)

1. Dnepropetrovskiy gornyy institut.
(Mining engineering) (Soil mechanics)

GLUSHKO, V.T., inzh.

Testing rocks for creep. Izv.vys.ucheb.zav.; gor.zhur. no.3:49-
52 '61. (MIFA 15:4)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy
institut imeni Artema; rekomendovana kafedroy shakhtnogo stroitel'stva
Dnepropetrovskogo gornogo instituta.
(Rocks--Testing)

BELAYENKO, F.A., prof.; GLUSHKO, V.T., inzh.

Investigating rock pressure on ring supports in level workings
by means of centrifugal modeling. Izv.vys.ucheb.zav.; gor. zhur.
no.6:32-36 '60. (MIRA 14:5)

1. Dnepropetrovskiy gornyy institut imeni Artema. Rekomendovana
kafedroy shakhtnogo stroitel'stva. (Rock pressure--Models) (Mine timbering)

GLUSHKO, V.T., inzh. ...

Safety measures in main and development workings. Bezop.truda v
prom. 5 no.1:6-8 Ja '61. (MIRA 14:2)

1. Dnepropetrovskiy gornyy institut.
(Coal mines and mining--Safety measures)

GIUS'KO, V.T., inzh.

Difference in the properties of swelling and nonswelling Donets
Basin soils. Ukol' ukr. S no.11:27-28 W '61. (MIRA 14:11)

1. Dnepropetrovskiy goranyy institut.
(Donets Basin--Soil mechanics)

BELEYENKO, F.A., prof.; GLUSHKO, V.T., inzh.; ZORIN, A.N., inzh.

Measuring the rock pressure on ring supports. Ugol' Ukr.
6 no.2:16-17 F '62. (MIRA 15:2)

1. Dnepropetrovskiy gornyy institut.
(Mine timbering)
(Rock pressure--Measurement)

GLUSHKO, V.T., kand.tekhn.nauk

Is a support with limited yield advantageous? Ugol' Ukr. ?
no.11:18-19 N '63. (MIRA 17:4)

1. Otdeloniye geotekhnicheskoy mekhaniki AN UkrSSR.

GLUSHKO, V.T.; PROKOPEIKO, S.P.

Testing nonmetallic materials for stress-rupture strength and
creep under uniaxial compression. *Zav. lab.* 30 no. 4:744-746⁶⁴
(MIRA 17:8)

1. Filial instituta mekhaniki AN UkrSSR i Dnepropetrovsky gosyay
institut.

GLUSHKO, V.V.

Stratigraphic position of Radych and 'Dobromil' conglomerates.
Geol.sbor. [Lvov] no.1:19-23 '54. (MIRA 10:1)

1.Ukrainskiy Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut, L'vov.
(Carpathian Mountain Region--Conglomerate)

GLUSHKO, V.V., PISHVANOVA, L.S.

Stratigraphy of lower Tortonian deposits of the Carpathian frontal
fault. Geol.sbor.[Lvov] no.1:30-36 '54. (MIRA 10:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologo-razvedochnyy
neftyanoy institut, L'vov.
(Carpathian Mountain region--Geology, Stratigraphic)

SANDLER, Ya.M.; GLUSHKO, V.V.

Folded Silurian in the northeastern regions of the L'vov Province.
Dokl. AN SSSR 103 no.4:685-688 Ag '55. (MLRA 8:11)

1. Ukrainskoye otdeleniye Vsesoyuznogo geologo-razvedochnogo neftyanogo instituta. Predstavleno akademikom S.I.Mironovym
(Lvov Province--Geology, Stratigraphic)

SUBBOTINA, N.N.; GLUSHKO, V.V.; PISHYANOVA, L.S.

Age of the lower Vorotyshchensk series in the outer Precarpathian depression. Dokl.AN SSSR 104 no.4:605-607 O '55. (MIRA 9:2)

1.Predstavleno akademikom S.I.Mirnovym.
(Carpathian Mountain region--Geology, Stratigraphic)

15-57-7-10036
Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7,
pp 190-191 (USSR)

AUTHOR: Glushko, V. V.

TITLE: Outline of the Geologic History of the Cis-Carpathian
Marginal Downwarp (Ocherk geologicheskoy istorii
Predkarpatskogo krayevogo progiba)

PERIODICAL: Tr. Vses. n.-i. in-ta geologii, 1956, Nr 32, pp 111-143

ABSTRACT: The author describes the principal stages of the
development of the cis-Carpathian downwarp in light
of new data obtained from recent exploratory drilling.
He notes the inaccuracy in a number of views expressed
in the earlier published reports of A. Ye. Mikhaylov.
A system of folds developed in the lower Paleozoic,
bordering the Russian platform on the southwest. The
Old Red Sandstone (Devonian) and coal-bearing beds
(Carboniferous) accumulated during the upper Paleozoic

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Outline of the Geologic History (Cont.)

to the southwest of the mountains which formed the Caledonian system, in the region of the present-day Keletsko-Sandomir Mountains in the northwestern part of the cis-Carpathian and Carpathian region. The southeastern part of the downwarp (region of Pokut'ye) remained submerged until the Helvetian emergence. At the end of the upper Paleozoic, the western part of the present Ukraine was uplifted. The Hercynian mountains were formed where the Carpathians and a great part of the cis-Carpathian region lie now. The cis-Keletsko-Sandomir downwarp began to form in the Jurassic. The upper part of the period is represented by lagoonal facies (gypseous variegated clays with anhydrite). A great part of the area of the Eastern Carpathians was dry land in the Jurassic, dividing the downwarp from the Penine geosyncline. The end of the Jurassic and the beginning of the Cretaceous were marked by extensive uplifts, which brought to the surface the southwestern edge of the Russian platform and the northwest part of the cis-Keletsko-Sandomir downwarp. This region was again depressed in the late
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Outline of the Geologic History (Cont)

Cretaceous, particularly in the northeast between Irasnopurna and Kalush, from the Jurassic to the early Miocene, there lay islands, composed of intensively metamorphosed schists of lower Paleozoic rocks, which were originally pebble-cobble conglomerates. Sediments accumulated without interruption during the Paleogene in the Carpathian geosyncline. The inner zone of the cis-Carpathian downwarp was uplifted in the middle Oligocene, and this event led to the withdrawal of the Menilite sea in a southwesterly direction and to the absence in this inner zone of the Lopyanki and upper Menilite series. In Polyanytsa time the Oligocene sea transgressed to the northeast, and this event represents the beginning of the cis-Carpathian downwarp. Synchronously with the Polyanytsa transgression, the Carpathians began to rise slowly. As a consequence of this, by the beginning of early Verotysncha time, a narrow half-closed basin was formed at the site of the present inner zone. Intense folding took place in the Carpathians at the end of the Oligocene. The Paleozoic folded structures and the
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15-57-7-10036

Outline of the Geologic history (Cont.)

Carpathians were uplifted simultaneously at the beginning of the Miocene. Active denudation of the Carpathians and the Hercynian and Caledonian mountains led to the accumulation of the Sloboda and Truskavets conglomerates. This region was leveled to a considerable extent by the beginning of late Vorotynsha time. Sandy clays of the Dobrotov series and extremely saliferous clays accumulated in the downwarp. Small uplifts of the Carpathians and the Hercynian structures occurred in Stebnik time. The downwarp was intensely depressed at the end of Stebnik time, and the Paleozoic structures were buried. In Balichskiy time the region of greatest submergence shifted to the northwest of the downwarp. The present-day outer zone and the adjacent parts of the Russian platform were involved in the submergence in early Tortonian time. The transgression of early Tortonian time was replaced by regression in late Tortonian time, after which the sea transgressed again, forming gypsum and anhydrite on the platform and in the outer zone, but the Dobromil and Radych conglomerates were deposited at Skiba
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Outline of the Geologic History (Cont.)

and in the inner zone. A new intense submergence of the downwarp occurred in Galician time; this downwarp was deepest at the northwestern outer zone. The vigorous uplift of the Carpathians and cis-Carpathian region at the end of Galician time culminated in middle Sarmatian folding. Thus, at the base in the northwestern part of the inner zone Hercynian structures are found, but on the southeastern part Caledonian folding occurs. The most deeply depressed northwestern part of the outer zone and the central part of the inner zone formed in the Jurassic cis-Keletsko-Sandomir downwarp. The distribution of facies and thickness of the different formations is associated with this downwarp. The greatest magnitude of overthrusting of the inner zone over the outer amounts to 15 km in the region of Stryy. On the northwest and southeast of Stryy the displacement is but 3 to 5 km, reflecting the structure at the base of the downwarp.

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S. M. Korenevskiy

SHAKIN, V.A.
SHAKIN, V.A.; GLUSHKO, V.V.

Menilite deposits in the northeastern slope of the Carpathians
and the Carpathian piedmont fault. Geol. nefti 1 no.9:35-43 S
'57. (MIRA 10:9)

1. Ob'yedineniye Ukrgaz.
(Carpathian Mountains--Geology, Stratigraphic)

GLUSHKO, V.V.

Series of Sloboda conglomerates in the cis-Carpathian region.
Geol. sbor. [Lvov] no.4:77-88 '57. (MIRA 13:2)

1.Ukrainskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo
geologorazvedochnogo neftyanogo instituta, L'vov.
(Carpathian Mountain region--Geology, Stratigraphic)

OLUSHKO, V.V.; SANDLER, Ya.M.

Western provinces of the Ukraine. Trudy VNIIGRI no.101:249-265 '57.
(MLMA 10:9)

(Ukraine--Geology)

GIJSHKO, V.V.; SANDLER, Ya.M.

Oil-bearing prospects of western provinces of the Ukrainian S.S.R.
Trudy VNIGRI no.111:48-62 '57. (MIRA 11:6)
(Ukraine, Western--Petroleum geology)

GLUSHKO, V.V.; KLITOCHEENKO, I.F.; MAKSIMOV, S.P.

Comparative estimation of oil and gas potentials of the Ukrainian
S.S.R. Geol. nefi Suoplement to no. 7:21-33 '58. (MIRA 11:8)
(Ukraine--Petroleum geology)
(Ukraine--Gas, Natural--Geology)

GLUSHKO, V.V.; SANDLER, Ya.M.

Prospective petroleum and gas resources of Lvov Province. Trudy VNIIGNI
no. 12:86-99 '58. (MIRA 12:3)
(Lvov Province--Petroleum geology)
(Lvov Province--Gas, Natural--Geology)

2. L. 11. 11. 11.

3(5)

PHASE I BOOK EXPLOITATION

SOV, 2632

Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut

Voprosy poiskov, razvedki i dobychi nefi i gaza na territorii USSR; doklady na vyvezdnoy sessii uchenykh sovetov VNIGNI i VNII, prokhodivshey v g. L'vove v maye 1957 g. (Problems in the Exploration and Production of Oil and Gas in the Ukrainian SSR; Reports Presented at a Session of the Scientific Councils of the All-Union Petroleum Scientific Research Institute for Geological Survey and the All-Union Scientific Research Institute, in Lvov, May 1957) Moscow, Gostoptekhizdat, 1959. 282 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Ministerstvo geologii i okhrany neдр.

Eds.: I. G. Baranov, V. V. Glushko, and A. S. Muromtsev; Executive Eds.: S. M. Yungans, and A. I. Zaretskaya; Tech Ed.: I. G. Fedotova.

PURPOSE: This book is intended for petroleum geologists and Ukrainian area specialists.

COVERAGE: This book contains 27 reports originally read at a meeting of the scientific councils of the VNIGNI (All-Union Petroleum Scientific Research Institute for Geological Survey), the VNII (All-Union Scientific Research

Card 1/7

Problems in the Exploration (Cont.)

SOV, 2682

Institute), the VNIIGaz, Ukrneft', Ukgaz, Ukrvostokneftegazvedka, Ukrneftegazrazvedka, and Ukrneftegeofizika held in L'vov in May, 1957. The papers deal with the petroleum geology of the Dnepr-Donets depression, the Carpathians, Ciscarpathia, the southwestern fringe of the Russian Platform, and the northern Black Sea area. Particular attention is given to describing the geological features of those regions most likely to bear oil. Other articles discuss oil production techniques and ways of increasing drilling speed in deep wells. No personalities are mentioned. References accompany individual articles.

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SOV/2682

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268

Zolotareva, A. I., and Z. F. Grinberg. Utilization of Local Bento-
nite in Drilling Oil Wells

277

AVAILABLE: Library of Congress

Card 7/7

MM/fal
11-29-59

307/9-59-4-8/11

11 (4)

AUTHORS: Glushko, V.V. and Sklyar, V.T.

TITLE: Petroleum in the External Zone of the Cis-Carpathian Depression
(Neft'no vneshney zone Predkarpatskogo progiaba)

PERIODICAL: Geologiya nefti i gaza, 1959, Nr 4, pp 49-52 (USSR)

ABSTRACT: Many geologists believe that gas deposits in the Cis-Carpathian Mountains are genetically connected with petroleum deposits and that they were formed during gas migration from the South-West to the North-East. The author investigates the genetic connection of petroleum from the Kokhanovka plateau (North-West part of the Cis-Carpathian depression) and the Sudovaya Vishaya plateau (North-West of the Ugerskoye gas deposit). Chemical and physical analyses of samples were carried out by A.D. Zvolina at the Lvov Petroleum Refining Plant Laboratory. Similar physical and chemical properties of the oil samples proved their genetic connection. These oils are very different from oils of other Carpathian deposits. This fact leads to the conclusion that oil deposits of a different type exist in the North-Western part of the Cis-Carpathian depression. Geological investigations showed that the origin of Kokhanovka and Sudovaya Vishaya

Card 1/2

367/9-59-4-8/11

Petroleum in the External Zone of the Cis-carpathian Depression

oils occurred in the Lower Paleozoic period.
There are 3 tables, 1 map and 2 Soviet references.

ASSOCIATION: UkrVNIGNI

Card 2/2

VYALOV, O.S. (SSSR); GLUSHKO, V.V. (SSSR); KUL'CHITSKIY, Ya.O. (SSSR);
SLAVIN, V.I. (SSSR)

Stratigraphy of the Eastern Soviet Carpathians. Mat. Karp.-Balk.
assots. no. 3:5-26 '60. (MIRA 14:12)
(Carpathian Mountains—Geology, Stratigraphic)

BUROV, V.S.; GLUSHKO, V.V.

Structure of the bedrock in the external (gas-bearing) zone in the
Carpathian Neogene piedmont fault. Geol. nefti i gaza 4 no.9:30-
35 S '60. (MIRA 13:8)

1. Ukrainskiy neftyanoy nauchno-issledovatel'skiy institut.
(Carpathian Mountain region--Gas, Natural--Geology)

GLUSHKO, V.V. [Glushko, V.V.]; FISHVANOVA, L.S.

Tortonian in the Dobromil' Carpathians. Dop. Ak URSR no.11:
1515-1518 '61. (MIRA 16:7)

1. Ukrainskiy nauchno-issledovatel'skiy geologorazvedochnyy
institut. Predstavleno akademikom AN UkrSSR O.S.Vyalovym.
(Berezov region (Ukraine)---Geology, Stratigraphic)

ARSHIRY, Yu.A.; BLANK, M.I.; BLIZNYUK, V.F.; GLUSHKO, V.V.;
KLETOCHENKO, I.F.; LITVINOV, V.R.; PALII, A.M.; PAN'KOV, A.M.;
PESTRUK, R.M.; CHERPAK, S.Ye.; CHERVINSKAYA, M.V.; YARCHENKO, L.M.

Plan for the areal study of the Dnieper-Donets Lowland, Study
VNIIGAZ no.14:3-17 '62. (MIRA 15:5)
(Dnieper-Donets Lowland---Petroleum geology)
(Dnieper-Donets Lowland---Gas, Natural---Geology)

GLUSHKO, Vasilii Vasil'yevich; KLITCCHENKO, Ivan Filippovich;
KHAMARENKO, Vladimir Nikolayevich; MAKSIMOV, Stepan
Pavlovich; CHIRVINSKAYA, Marina Vladimirovna;
OVCHINNIKOVA, S.V., red.; VORONOVA, V.V., tekhn. red.

[Geology of oil and gas fields in the Ukrainian S.S.R.]
Geologiya nefiannykh i gazovykh mestorozhdenii Ukrain-
skoi SSR. Moskva, Gostoptekhizdat, 1963. 314 p.
(MI A 17:2)

VYSOTSKIY, I.V., GLUSHKO, V.V., PETRICH, N.

Miocene of the Eastern Carpathian foothill trough. Sov. geol. 6 no.9:12-29 S '63. (MLA 17-10)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

SVETLICHNYY, Pavel Luk'yanovich; GLUSHKO, Vladimir Vasil'yevich;
BURLYGA, F.I., red.; SAMOLETOVA, A.V., tekhn.red.

[Using nomograms to calculate cable networks for mines] Raschet
shakhtnoi kabel'noi seti po nomogrammam. Stalino, Knizhnoe izd-vo
Stalino-Donbass, 1956. 29 p. (MIRA 16:6)
(Electricity in mining)

KUDRYASHOV, S.A., inzhener; GLUSHKO, V.V., inzhener; PAVLOV, N.N., kandidat
tekhnikeskikh nauk; NAYFELD, M.R., inzhener.

Comments on M.R.Naifel'd's article "Grounding portable installations
and machinery." Energetik 4 no.9:3-7 S '56. (MLRA 9:10)
(Electric engineering--Safety measures)(Electric currents--Grounding)

GLUSHKO, V.V., inzhener, GERTSENSHTEYN, D.I., inzhener.

Use of static capacitors. Prem.energ. 11 no.3:12-13 Mr '56.
(Condensers (Electricity)) (MLRA 9:7)

GLUSHKO, V.V., inzhener; GERTSENSHTEYN, D.I., inzhener.

Protection of capacitor equipment against overheating due to
high temperatures of ambient air. Prom.energ. 11 no.8:10-13
Aug '56. (MLRA 9:11)
(Condensers (Electricity))

Glushko V.V.
GIMOYAN, G.G., kandidat tekhnicheskikh nauk; GLUSHKO, V.V., inzhener;
SKOMOROKHOV, I.M., tekhnik.

Protection of three-phase motors against two-phase operations
Prom.energ. 11 no.9:15-18 S '56. (MLRA 9:11)
(Electric motors)

GLUSHKO, V.V.

Principle structural features of the Carpathian depression and
the adjacent part of the Russian Platform. Geol. sbor. [Lvov]
no.5/6:7-24 '58. (MIRA 12:10)

1. Ukrainskoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo geologo-
razvedochnogo neftyanogo instituta, L'vov.
(Carpathian Mountains--Geology, Structural)
(Russian Platform--Geology, Structural)

GERTSENSHTEYN, D.I., inzh.; GLUSHKO, V.V., inzh.

Using portable electric drills. Bazop.truda v pron. 3 no.1:10-12
Ja '59. (MIRA 12:3)

(Boring machinery)

SVETLICHNYI, P.L.; GLUSHKO, V.V.

Concerning L.E. Dudarev's article "Study of the engaging
process of a button controlled magnetic starter." Prom. energ.
16 no.4:28-30 Ap '61. (MIRA 14:9)
(Electric motors--Starting devices)
(Dudarev, L.E.)

SVETLICHNYY, P.L.; GLUSHKO, V.V.

New system for connecting magnetic starters and contactors. Prom.
energ. 16 no.5:42-46 My '61. (MIRA 14:7)
(Electricity in mining)

GLUSHKO, V.V.; GERTSENSHTEYN, D.I.; KAREV, A.P.

AFV-RU apparatus for protection of electrical networks in mines.
Energ.i elektrotekh.prom. no.4:38-41 O-D '62. (MIRA 16:2)
(Electricity in mining--Safety measures)
(Electric protection)

GLUSHKO, V.V., inzh.; KAREV, A.P., inzh.

Protection device for electric networks in mines. Bezop.truda v
prom. 6 no.6:16-17 Je '62. (MIRA 15:11)

1. Luganskiy institut avtomatiki.
(Electricity in mining--Safety measures)

SVETLICHNEV, P.I., inzh.: GLUSHKO, V.V., inzh.

Protection of electric power distribution networks in mines against
short-circuits to ground. Prom.energ. 17 no.7:36-39 Ян 1960.
(MIRA 15-7)

(Electricity in mining) (Electric protection)

GLUSHKO, V.V.

Operation of starter contactors in sealed housings in mines.
Energ. i elektrotekh. prom. no.2:14-16 April 1961.

(MIRA 10:7)

1. Donately soviet narodnogo khozyaystva.
(Electricity in mining)
(Electric contactors)

GLUSHKO, V.V.; KAREV, A.P.; LEVENETS, V.P.

Noncontact remote control of magnetic starters of mining machinery
and mechanisms. Avtom. i prib. no.4:16-17 O-D '63.

(MIRA 16:12)

1. Luganskiy filial Instituta avtomatiki Donetskogo soveta
narodnogo khozyaystva.

GLUSHKO, V.V., inzh.; UL'SHIN, V.A., inzh.

New means for the automatic control of coal mining machinery
and cutterloaders. Izv. vys. ucheb. zav.; gor. zhur. 6
no.10:19-26 '63. (MIRA 17:2)

1. Luganskiy filial instituta avtomatiki.

GLUSHKO, V.V., inzh.; KAREV, A.P., inzh.; ZROZHEVSKIY, I.N., inzh.;
GFRSENSHTEYN, D.I., inzh.

Protection of the insulation of electrical networks in mines.
From.energ. 18 no.13-17 Ja '63. (MIFA 16:4)
(Electricity in mining)

SVETLICHNYI, P.L.; GLUSHKO, V.V.

Concerning A.S.Sergeev's article "Nomograms for calculating an
electric cable network in a mine section." Prom.energ. 18
no.4:48-50 Ap '63. (MIRA 16:4)
(Electricity in mining) (Electric power distribution)

GLUSHKO, V.V., inzh.

New trend in creating a protective system against shortcircuiting
to ground. Izv.vys.ucheb.zav.:gor.zhur. 7 no. 1:140-145 '64.
(MIRA 17:5)

1. Luganskiy filial instituta avtomatiki. Rekomendovana.
kafedroy gornoy elektrotekhniki Sverdlovskogo gornogo instituta.

L 07430-67
ACC NR: A10030074 (N) SOURCE CODE: UR/0185/66/000/008/0048/0049

AUTHOR: Березинский, В. В. (Sevastopol'); Сажал, В. Я. (Sevastopol'); Глушко, В. Я.

ORG: [Gluško] ТРИТТ Khimavtopromstroy

TITLE: A combined method for butt welding steel pipelines

SOURCE: Avtomaticheskaya svarka, no. 2, 1966, 4p-5

TOPIC TAGS: butt welding, pipeline, argon, carbon dioxide, JOINT WELDING

ABSTRACT: A method is described for butt welding steel pipelines which produces a high-quality joint with no use of heating rings. The first seam is made by manual DC argon arc welding with pipe rotation using an invariable electrode in the lower position. The second seam is held by heating the metal at 2 or 3 points. Argon was fed into the pipe at the top and the center of the joint. Hot cracks were prevented by welding the seam with a mixture of carbon dioxide and argon in diameter. An Argon 7 semi-automatic tripper was used for making the second seam in a carbon dioxide atmosphere. In making the first seam the rate of argon flow is 6 l/min for welding and 3-5 l/min for protecting the back side of the weld. A welding current of 60-135 a should be used depending on the thickness of the pipe. The rate of carbon dioxide flow for the second joint is 6-10 l/min with a welding current of 90-130 a depending on the pipe thickness. The proposed method takes considerably less time than conventional welding methods. Orig. art. has: 1 figure, 2 tables.

SUB CODE: 13/ SUEM DATE: 21Jul65/ ORIG REF: 002

1/1
Corr

GLUSHKO, Ya.M.

Dynamic forces in hoisting ropes of variable length. Trudy
MakhM 9 no.2:278-304 '59. (MIRA 12:8)
(Hoisting machinery) (Wire ropes)

GLUSHKO, Ya.M.

Determining the dynamic forces in a mine hoisting cable with varying length. Trudy MakNII 11.Vop.gor.elektromekh.no.3s239-248 '60.

(Wire rope)

(MIRA 15s5)

14-4160

S/044/62/000/007/021/100
0111/0333

AUTHOR: Glushko, Ya. M.,
TITLE: One of the methods for the integration of linear systems with variable coefficients

PERIODICAL: Referativnyy zhurnal, Matematika, no. 7, 1962, 39, abstract 7B193. ("Vopr. gorn. elektromekhan. Nr. 4", M., 1961, 99-108)

TEXT: Considered is a system of two linear equations of second order with variable coefficients. These equations appear at the determination of the dynamic strain in a lift hoisting rope of variable length; they have the shape

$$a_1 \ddot{q} + a_2 \dot{q} + a_3 q + b_1 \ddot{q}_1 + b_2 \dot{q}_1 = 0 \tag{1}$$

$$c_1 \ddot{q}_1 + c_2 \dot{q}_1 + d_1 q_1 + d_2 \ddot{q} + d_3 \dot{q} = 0$$

where a_1, \dots, d_3 are variable coefficients and where a_2 and d_3 are essentially greater than the other coefficients and, compared with these, Card 1/3

S/044/62/000/007/021/100
C111/3333

One of the methods for the . . .

have the order $\frac{1}{2}$. (δ being an arbitrary parameter). The solution is searched with the set-up

$$\varphi = B_{1k}, \quad \varphi_1 = \dots \quad (2)$$

where φ satisfies the equation $\varphi'' = \dots$ and

$$B_{1k} = \sum_{k=0}^{\infty} k B_{1k}, \quad \varphi_0 = \sum_{k=0}^{\infty} (k-1) \dots_k \quad (1)$$

Equations for the determination of B_{1k}, φ_k , as well as expressions for the solution of the equations (1) in the first approximation, are given.

Abstractor's note: Complete translation.

GLUSHKO, Ya.M.

Determination of dynamic forces in a mine hoisting cable with
a sudden decrease in the end load while being hoisted in an
even movement. Trudy MakNII 12: Vop. gor. elektromekh. no.4:
109-116 '61. (MIRA 16:6)

(Wire rope)

GLUSHKO, Ya.M.

Determination of dynamic forces in a mine hoisting cable with varying length while hoisting a load in an even movement of a hoist drum designed for use in very deep mines. Trudy MakNII 12: Vop. gor. elektromekh, no.4:125-137 '61.

(MIRA 1616)

(Wire rope)

BOYKO, N.; YATSENKO, M.; LIZOGUB, M.; GLUSHKO, Ye.; MARTYNYENKO, II.

In the progressive rural savings banks. Fin. SSSE 21 no.12:68-72
D '60. (MIRA 13:12)

1. Kontroler sberegatel'noy kassy sela Medvezh'ye Talayevskogo rayona (for Boyko). 2. Kontroler sberkassy sela Zhigaylovka (for Yatsenko). 3. Kontroler sberkassy sela Osceyevka Krasnopol'skogo rayona (for Lizogub). 4. Kontroler sberkassy sela Khoruzhevki Nedrigaylovskogo rayona (for Glushko). 5. Kontroler sberkassy Akhtyrskogo rayona No.2833/01 (for Martynenko).
(Savings banks)

GLUSHKO, YE. I.

137-58-1-2104

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 285 (USSR)

AUTHORS: Belyayeva, V. A., Tarantsova, M. I., Glushko, Ye. I.

TITLE: Electrolytic Segregation of Iron from Titanium
(Elektroliticheskoye otdeleniye zheleza ot titana)

PERIODICAL: Sb. stud. rabot. Rostovsk. un-t, 1957, Nr 3, pp 45-48

ABSTRACT: An experimental verification of the segregation of Fe from Ti by electrolysis, using an Hg cathode at 2.5-3 amp and 5-6 v in 50-55 min time is presented. An artificial mixture of Fe and Ti containing 0.28-32.77 percent Ti was investigated. To determine the Ti in the Fe-Ti, 0.5 g of the latter is dissolved in 20 cc aqua regia, 2-3 drops of HF being added at the end of the period of solution, subsequent to which 20 cc H₂SO₄ (1:1) is added; evaporation follows until SO₃ vapors appear. The precipitant coming down under these conditions is dissolved in 5 percent H₂SO₄ and one then proceeds as described above.

Z. G.

1. Iron--Separation 2. Titanium--Separation 3. Electrolysis
--Applications

Card 1/1

E-4

USSR/Physical Chemistry - Molecule, Chemical Bond.

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 164

Author : O.A. Osipov, G.S. Samofalova, Ye.I. Glushko.

Inst : -

Title : Dipole Moments of Complex Compounds of Tin Tetrachloride with Some Organic Acids.

Orig Pub : Zh. obshch. Khimii, 1958, 27, No 6, 1428-1433.

Abstract : The dipole moments and μ (in D) in benzene of the molecular compounds of $\text{SnCl}_4 \cdot 2\text{CH}_3\text{COOH}$ - 6.38; $\text{SnCl}_4 \cdot 2\text{CH}_2\text{ClCOOH}$ - 3.44; $\text{SnCl}_4 \cdot 2\text{CCl}_3\text{COOH}$ - 2.09; $[\text{SnCl}_4 \cdot 2\text{CH}_3\text{COOH}]^+ \cdot \text{CH}_3\text{COOH}$ - 7.23; $[\text{SnCl}_4 \cdot 2\text{CH}_2\text{ClCOOH}]^+ \cdot \text{CH}_2\text{ClCOOH}$ - 3.67; $\text{SnCl}_4 \cdot 3\text{CCl}_3\text{COOH}$ - 1.89; $\text{SnCl}_4 \cdot 2\text{C}_6\text{H}_5\text{COOH}$ - 5.73 and $[\text{SnCl}_4 \cdot 2\text{C}_6\text{H}_5\text{COOH}]^+ \cdot \text{C}_6\text{H}_5\text{COOH}$ - 6.16 were measured. It was assumed that

Ca Card 1/2

ZELENTSOV, V.V.; TRAILINA, Ye.P.; GLUSHKO, Yu.V.; SAVICH, I.A.; SPITSYN,
VIKT.I.

Inner-complex uranyl compounds with derivatives of 8-hydroxyquinoline of the type of Mannich bases. Zhur.neorg.khim. 6 no.5:1063-1065 My '61. (MIRA 14:4)

(Uranyl compounds)

Gluahkov, A.

Public Utilities - Accounting

Calculating amortization rates and appropriations for capital equipment of public enterprises. Akts. kon. khoz. 3 no. 2, 1972

Monthly List of Russian Acquisitions, Library of Congress, July 1972. Undescribed

GLUSHKOV, A.

Municipal Engineering

Reserve capacity of plants manufacturing municipal supplies. Zhil. -kom. khoz. 2
no. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August 1952, Uncl.

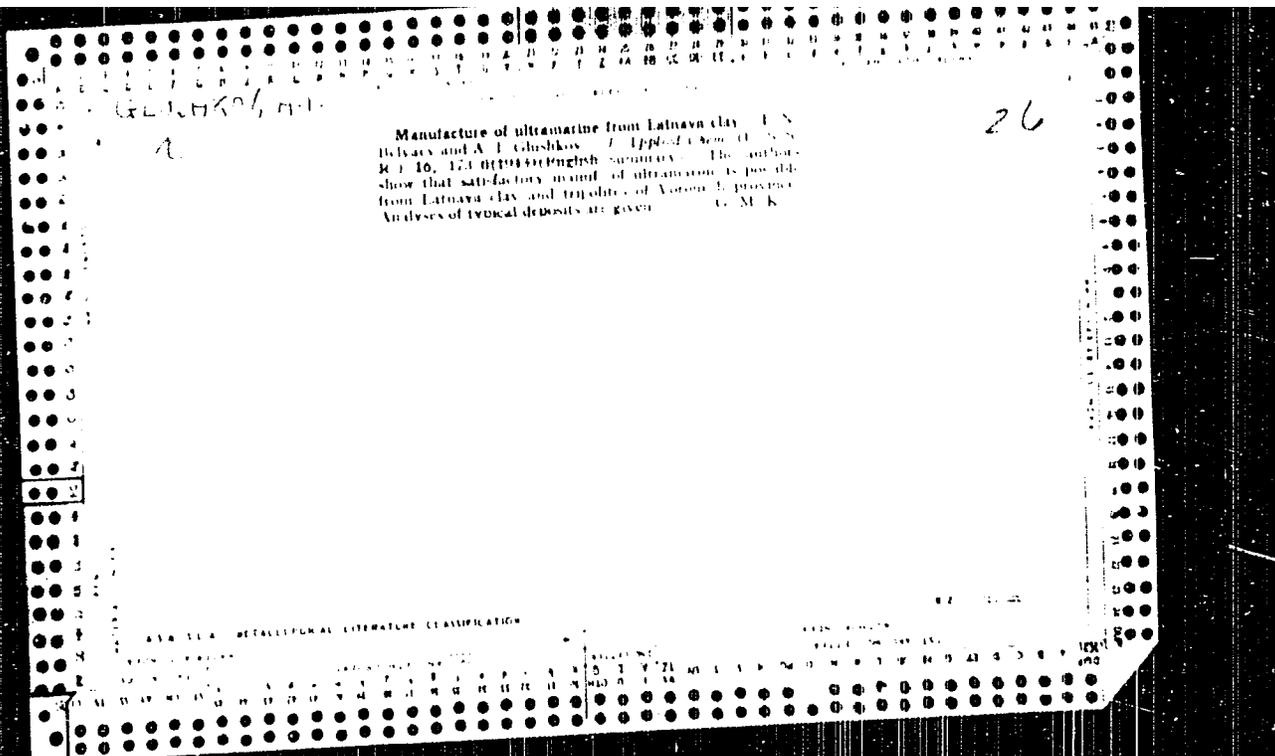
1. GLUSHKOV, A.
2. USSR (600)
4. Construction Industry - Accounting
7. Timely and quality compilation of annual accounting records. Zhil.-kon. khoz. 3, no. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Unclassified.

GLUSHKOV, A.

Great force of specialist competition. Voen.znan. 36 no.12:8-9
D'60. (MIRA 13:11)

1. Predsedatel' Fatezhskogo raykoma Vsesoyuznogo ordena
Krasnogo Znameni dobrovol'nogo obshchestva sodeystviya
armii, aviatsii i flotu (Kurskaya oblast').
(Military education)



18

GLUSHKOV, A.S.

CA

PREPARATION AND PROPERTIES INDEX

Preparation of ultramarine from Latenskii clay. I. Belyav and A. Glushkov (Voronezh State Zoo-Veterinary Inst.). *J. Appl. Chem.* (U.S.S.R.) 19, 320-32(1946).

One hundred parts each of clay, soda, and S, 20-24 parts tripoli, and 10-12 parts resin or coal are mixed in a ball mill and heated for 5 hrs. to 300° in a muffle. The temp. is raised slowly from 300° to 400°, then rather quickly to 780-800°. It remains there 6-8 hours, after which it is quickly lowered to 500°, then very slowly (25-28 hrs.) to 200°. An overall time of 40-60 hrs. is required to oxidize the green ultramarine to blue; industrial runs last 10-14 days.

Cyrus Feldman

Common Elements

Metals

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

Y20M STV82LVA

181043 WEP ONV G85

RELEBYONE

RELEBYONE

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

Y20M STV82LVA

181043 WEP ONV G85

RELEBYONE

RELEBYONE

GLUSHKOV, A.I.

Scraper conveyer for scale removal. Biul. TSNIICHM no.23:45
'57. (MIRA 11:2)

1.Lys'venskiy metallurgicheskiy zavod.
(Conveying machinery)